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- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MARRA, Johannes [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). GLAESER, Harald [DE/DE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

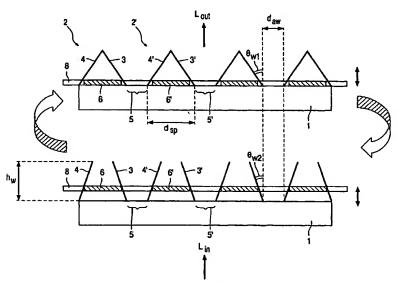
- (74) Agent: PET, Robert, J.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
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(54) Title: LIGHT-COLLIMATING SYSTEM



(57) Abstract: A light-collimating system for collimating light from a light source has a plurality of elements (2, 2', ...), each element including at least a first wall (3, 3', ...) and at least a second wall (4, 4', ...). The first (3) and second wall (4') of adjacent elements are spaced with respect to each other at a side of the light-collimating system facing the light source, the spacing defining an aperture window (5, 5', ...) for admitting light into the light-collimating system. The first and second wall of said adjacent elements form a wedge-shaped structure widening in a direction facing away from the light source. The first and the second wall are provided with a specular reflecting surface at a side facing the wedge-shaped structure. According to the invention, the wedge angle (w of the first and second wall with respect to the normal on the aperture window are adjustable for enabling adjustable collimation.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

Cotos	ENTS CONSIDERED TO BE RELEVANT	no mlovant passages	Relevant to claim No.	
Category °	Citation of document, with indication, where appropriate, of the	ie retevant passages	Helevani to dam No.	
X	US 2 387 816 A (WAGNER WILFRED 30 October 1945 (1945-10-30) page 1, column 1, line 12 - li page 1, column 1, line 47 - li page 2, column 1, line 25 - li page 2, column 2, line 1 - lin page 3, column 1, line 4 - lin claim 1	ne 19 ne 53 ne 32 e 10	1,3-6, 11-13	
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Date of the	e actual completion of the international search	Date of mailing of the international s	earch report	
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Name and	mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer		

INTERNATIONAL SEARCH REPORT

PCT Application No.

		101, 03,		_
C.(Continua Category *	ation) DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.	_
Calegory	Cuation of document, with indicator, where appropriate, of the recovery passages			
A	WO 01 53744 A (SCREEN TECHNOLOGY LTD; YORK TIMOTHY (GB); GALLEN NIALL ANTHONY (GB) 26 July 2001 (2001-07-26) page 1, line 32 -page 2, line 5 page 3, line 1 - line 2 page 3, line 12 - line 25 page 6, line 17 - line 29 page 7, line 12 - line 15 page 7, line 28 -page 8, line 24 page 10, line 13 - line 24 page 11, line 12 - line 29	••	1	
Α	figures 3-6 US 5 839 812 A (GE XIAOQIN ET AL) 24 November 1998 (1998-11-24) column 1, line 34 - line 54 column 3, line 51 - line 54 figures 1-3,9		1	
Α	EP 0 762 182 A (THOMSON MULTIMEDIA SA) 12 March 1997 (1997-03-12) page 3, line 55 -page 4, line 19 figure 3		1	
A	US 4 330 813 A (DEUTSCH JEAN-CLAUDE) 18 May 1982 (1982-05-18) column 4, line 2 -column 5, line 19 figure 4			
P,A	WO 03 003077 A (HOLMGREN OLOF; FLIR SYSTEMS AB (SE); WERNOLF ANN-CATHRINE (SE)) 9 January 2003 (2003-01-09) the whole document		1	
ale.	4.			
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INTERNATIONAL SEARCH REPORT

tion on patent family members

PCT, U3/02868

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Paternt document cited in search report		Publication date		Patent family member(s)	Publication date
US 2387816	Α	30-10-1945	NONE		
WO 0153744	Α	26-07-2001	GB	2358512 A	25-07-2001
			AU	2691301 A	31-07-2001
		·	WO	0153744 A1	26-07-2001
US 5839812	Α	24-11-1998	NONE		
EP 0762182	Α	12-03-1997	FR	2737789 A1	14-02-1997
			EP	0762182 A1	12-03-1997
		121.120	JP	9133920 A	20-05-1997
US 4330813	Α	18-05-1982	FR	2471012 A1	12-06-1981
			CA	1173180 A1	21-08-1984
			DE	3068970 D1	20-09-1984
			EP	0030875 A1	24-06-1981
			ES	8203523 A1	01-07-1982
			JP	1499531 C	29-05-1989
			JP	56092580 A	27-07-1981
			JP	63046428 B	14-09-1988
WO 03003077	Α	09-01-2003	SE	0102332 A	30-12-2002
			WO	03003077 A1	09-01-2003